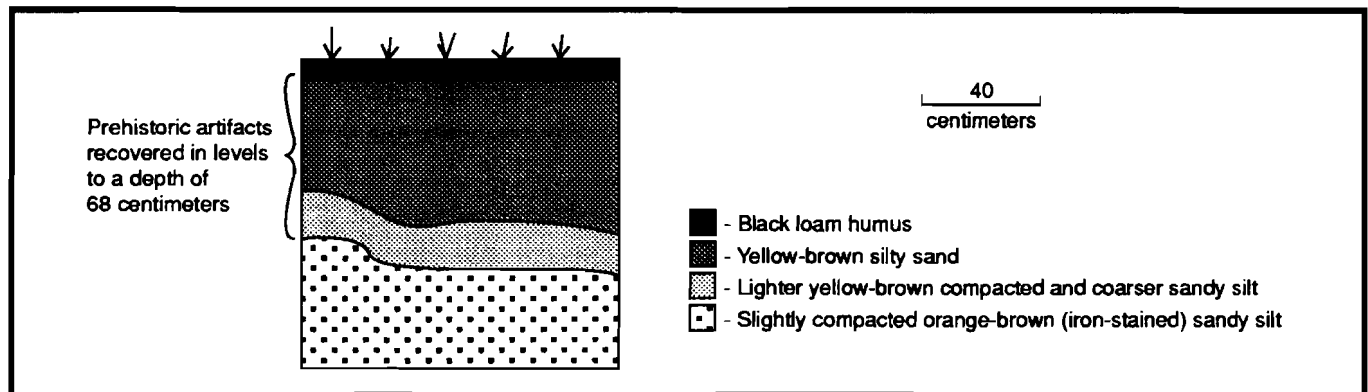


FIGURE 9  
Profile from Phase I Testing



### Previous Research

**Phase I Survey.** The Pollack Site was originally defined in 1984 as a surface scatter of flakes and fire-cracked rock in the cornfield on the south bank of the Leipsic River during a planning survey of possible alignments of the State Route 1 Relief Route (Custer, Bachman, and Grettler 1986:72). In March of 1988, a second pedestrian survey resulted in the recovery of the first diagnostic artifact from the site, a rhyolite Koens-Crispin broadpoint (Riley et al. 1994). The preliminary testing of the Pollack Site consisted of a series of shovel test pits excavated along the bank of the Leipsic River in order to better define the site limits (Figure 8). One of the goals of these excavations was to ascertain the extent of the intact cultural deposits in the vicinity of the proposed centerline for the State Route 1 right-of-way to determine if there was a “window” through which the right-of-way could be inserted without disturbing those deposits. The testing conducted at the site located artifacts in both plow zone and subsoil strata all along the river bank. Therefore, since no “window” was found, no further work was conducted at that time.

One-meter test units were also excavated in and adjacent to the shovel test pit line (Figure 8). Three units were placed in the woodlot and four within the cornfield. Thirty-three of the 62 shovel test pits contained flakes and/or fire-cracked rock. Test Unit S-1 was placed on the high ground southwest of the confluence of the Leipsic River and Alston Branch. The undisturbed upper humus level averaged only seven centimeters in depth and was underlain by approximately 64 centimeters of yellow-brown silty sand (Figure 9). Debitage (57 flakes of various materials), fire-cracked rock, and carbon flecking were found throughout the 64-centimeter thick stratum. Underlying this stratum were 36 centimeters of sterile orange and orange-brown silts and sands. Although no intact hearths or perceptible pit features were found in any of these units, the presence of tools,debitage, and fire-cracked rock in undisturbed soils indicated an occupation of some temporal duration and that features could also be present in undisturbed contexts. A summary catalog of total prehistoric artifacts recovered from the site during Phase I testing is shown in Table 1.

TABLE 1  
Phase I Testing - Summary Catalog

	Quartzite	Quartz	Chert	Jasper	Ironstone	Chalcedony	Rhyolite	Argillite	Other	Total
Flakes	8 (5)	35(12)	16(5)	85(35)	4	11(3)	—	—	1	160(60)
Flake Tools	—	1 (1)	—	1	—	—	—	—	—	2 (1)
Woodland I Point	—	—	—	—	—	—	1	1	—	2
Other Bifaces	1	—	—	—	—	—	—	—	—	1
Total	9 (5)	36(13)	16(5)	86 (35)	4	11(3)	1	1	1	165(61)

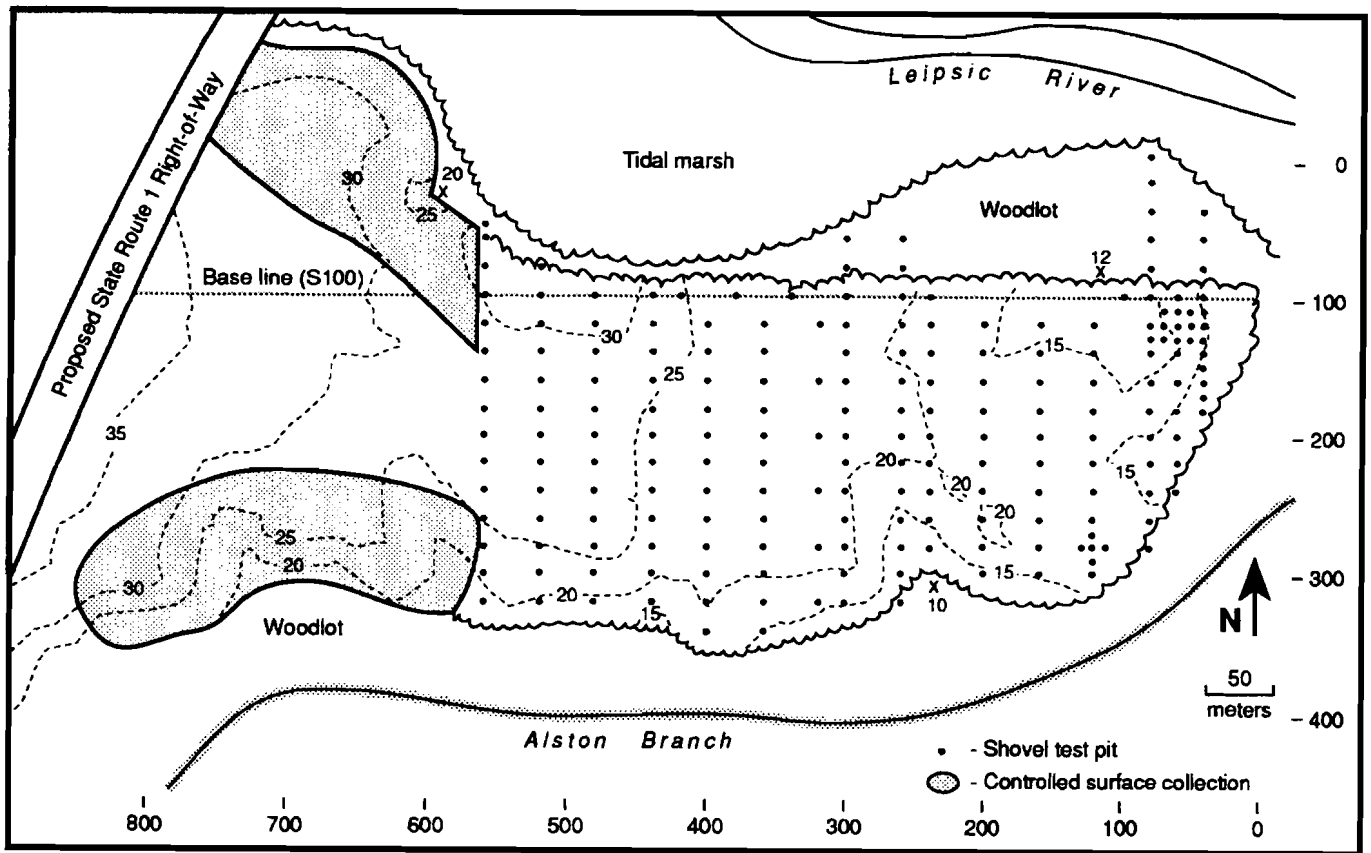
  

	Total Count	Percent
Quartzite	9 (5)	5.50
Quartz	36(13)	21.80
Chert	16 (5)	9.70
Jasper	86(35)	52.10
Ironstone	4	2.40
Chalcedony	11 (3)	6.70
Rhyolite	1	.60
Argillite	1	.60
Other	1	.60
Total	165(61)	100.00

Additional survey was undertaken because of low surface visibility over the entire 50-acre field, the high potential for significant cultural remains as indicated by earlier surveys, and the fact that earlier surveys had been limited to the Leipsic River shore due to DelDOT project needs. The additional Phase I survey consisted of a pedestrian survey of the entire field and adjacent woodlot, a controlled surface collection where visibility permitted, and the excavation of 202 shovel test pits over an area approximately 600 meters long and 300 meters wide (Figure 10). This additional Phase I testing located three general areas of concentrated historical and prehistoric artifacts at the Pollack Site (Figure 11). Historical and prehistoric artifacts were found consistently in the confluence area east of the W200 line from the baseline at S100 to Alston Branch near S300 (Figure 11). Overall artifact densities were relatively low. All of the 19 shovel tests with prehistoric artifacts contained less than six, and typically only one or two prehistoric artifacts.

One diagnostic prehistoric artifact, a Woodland I argillite biface fragment, was found near the confluence of the Leipsic River and Alston Branch. Lithic flakes, charcoal, fire-cracked rock, and other nondiagnostic prehistoric artifacts were found in 19 other shovel tests in this area. No prehistoric pottery or other tools were recovered. All of the debitage except for one chalcedony flake was from local chert, jasper, quartz and quartzite. Although prehistoric artifact densities were low, five of the 36 shovel tests (14%) near the confluence recovered prehistoric artifacts from intact subsoil or feature contexts. These intact contexts were located below the plow zone and consisted of a thin layer of yellow-brown silty sands (Figure 12). The thickness of these buried intact soils varied from less than 10

FIGURE 10  
Additional Phase I Testing



centimeters to over 50 centimeters. The presence of numerous small flecks of charcoal in this soil was interpreted as evidence of possible prehistoric features. Similar buried soils were associated with prehistoric features at the nearby Leipsic Site, 7K-C-194A (Riley et al. 1994).

The other two areas of concentrated historical and prehistoric artifacts at the Pollack Site were along the two woodlots bordering the property. The northern concentration bordered the unplowed woodlot along the Leipsic River and the southern concentration bordered the wooded fringe of Alston Branch (Figure 11). The northern concentration consisted of a 500 meters long by 100 meters wide scatter of prehistoric artifacts from W200 to the eastern edge of the State Route 1 right-of-way at W700 (Figure 11). Fifty-six shovel test pits were excavated in this northern area of the Pollack field, and artifacts were found in 11 (20%) of them. Artifact densities were low, from one to five artifacts per test. Although no other diagnostic prehistoric artifacts were found in this northern area, four shovel tests encountered buried intact soils or prehistoric features. Three of these four shovel tests also found prehistoric flakes and fire-cracked rock in these intact contexts similar to those found near the confluence area. The presence of charcoal in some of these soils indicated the presence of prehistoric features.

The southern concentration of artifacts was located in a 600 meters long and 50 to 100 meters wide band along Alston Branch (Figure 11), and was more severely eroded than either the confluence or northern area. The southern area was bisected by three large eroded ravines incised nearly eight vertical feet into the surrounding sandy ridges. These eroded areas are the remains of ancient ephemeral drainages

FIGURE 11

## Areas of Prehistoric and Historic Artifacts in Phase I Testing

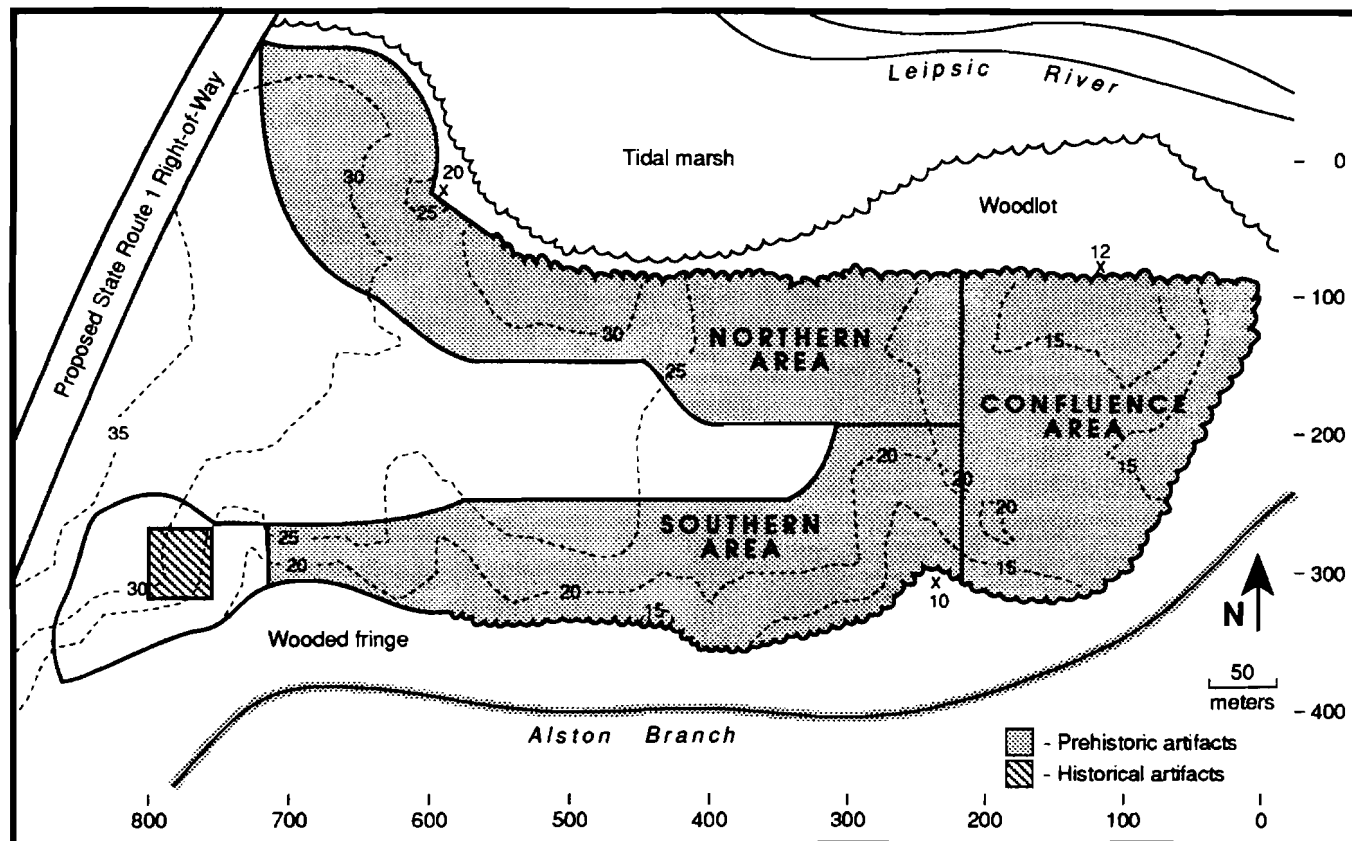
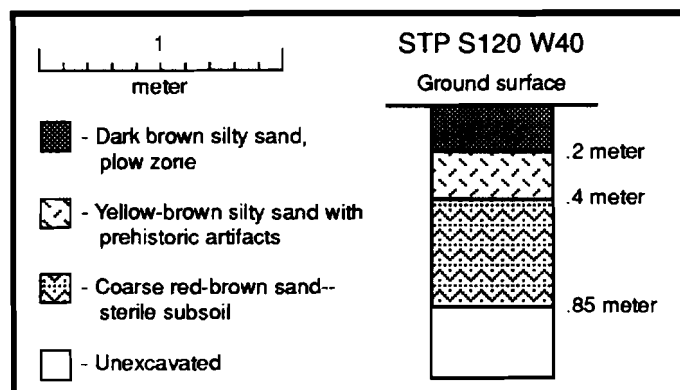


FIGURE 12

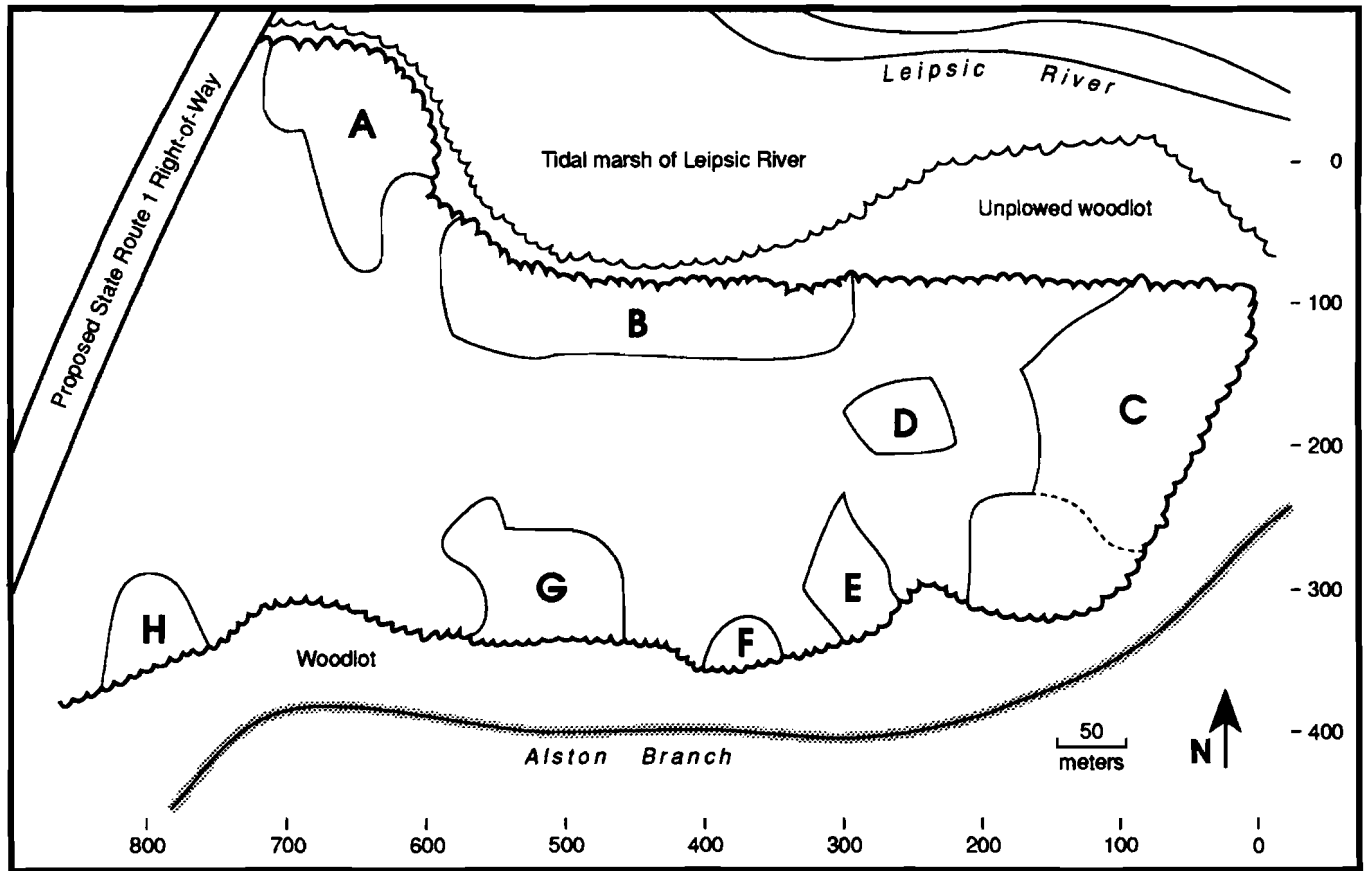
## Profile of Sample Shovel Test Pit



into Alston Branch, and shovel testing was limited to the less deflated high ground between these eroded areas. Sixty-seven shovel tests were excavated in the southern part of the Pollack field. Historical artifacts were found in two of these tests and very low densities of prehistoric artifacts were also found. No diagnostic prehistoric artifacts were recovered.

Despite distinctly low artifact densities, the presence of diagnostic historical and prehistoric artifacts in all three areas indicated the presence of significant archaeological remains. Although the wide interval between shovel tests could not identify individual sub-area limits, the presence of diagnostic artifacts in both plow zone and feature contexts led to the determination that all three areas warranted Phase II testing.

FIGURE 13  
Areas of Artifact Concentrations



**Phase II Testing.** Because the Pollack Site had already been listed on the National Register of Historic Places, Phase II testing emphasized identification of site limits and developing an accurate data recovery plan. Phase II testing consisted of the excavation of 1,585 1- x 1-meter test units in the three general areas of concentrated historical and prehistoric artifacts located by the Phase I survey (Figure 11, Plate 5). These test units were dug as part of a one percent sample of the nearly 20 acres of the Pollack field where artifacts were found during Phase I testing. Specifically, this one percent sample consisted of the excavation of one 1- x 1-meter test unit in every 10- x 10-meter block (Plate 6). Eight distinct concentrations of historical and prehistoric artifacts were identified by this testing (Figure 13, Plate 7, Attachments I and II). Significant prehistoric components were found in seven areas (A, B, C, D, E, F, and G). Significant early eighteenth-century components were also found in areas C and H. Each of these areas was defined by the presence of pronounced concentrations of artifacts, cultural features, and the presence of intact, artifact-bearing strata. Table 2 provides a summary catalog of artifacts from the Phase II testing. The presence of these characteristics clearly confirms the eligibility of the Pollack Site for listing on the National Register of Historic Places. A summary of the results of initial Phase II testing at each of the eight areas of the Pollack Site is presented below. Plate 8 shows a sample of artifacts recovered from the Phase II testing.

PLATE 5

Phase II Testing - Aerial View of Eastern End of Site



*[Click here to see photograph](#)*

PLATE 6  
Phase II Test Unit Intervals



TABLE 2  
Summary Catalog - Phase II Testing

ARTIFACT TYPE	AREA							TOTAL
	A	B	C	D	E	F	G	
Flakes	181	534	535	67	49	12	65	1443
Utilized Flakes	4	39	18	3	0	0	7	71
Flake Tools	5	36	14	2	1	3	1	62
Points	2	8	6	2	0	1	4	23
Bifaces	4	9	5	1	0	0	1	20
Misc. Stone Tools	0	1	1	1	0	0	0	3
Shatter	48	89	52	4	7	14	17	231
Cores	4	8	2	0	0	0	1	15
Ceramics	3	9	14	0	0	0	0	26
Ground Stone Tools	0	3	3	1	0	0	0	7
Fire-Cracked Rock	28	71	30	13	5	1	13	161
TOTAL	279	807	680	94	62	31	109	2062

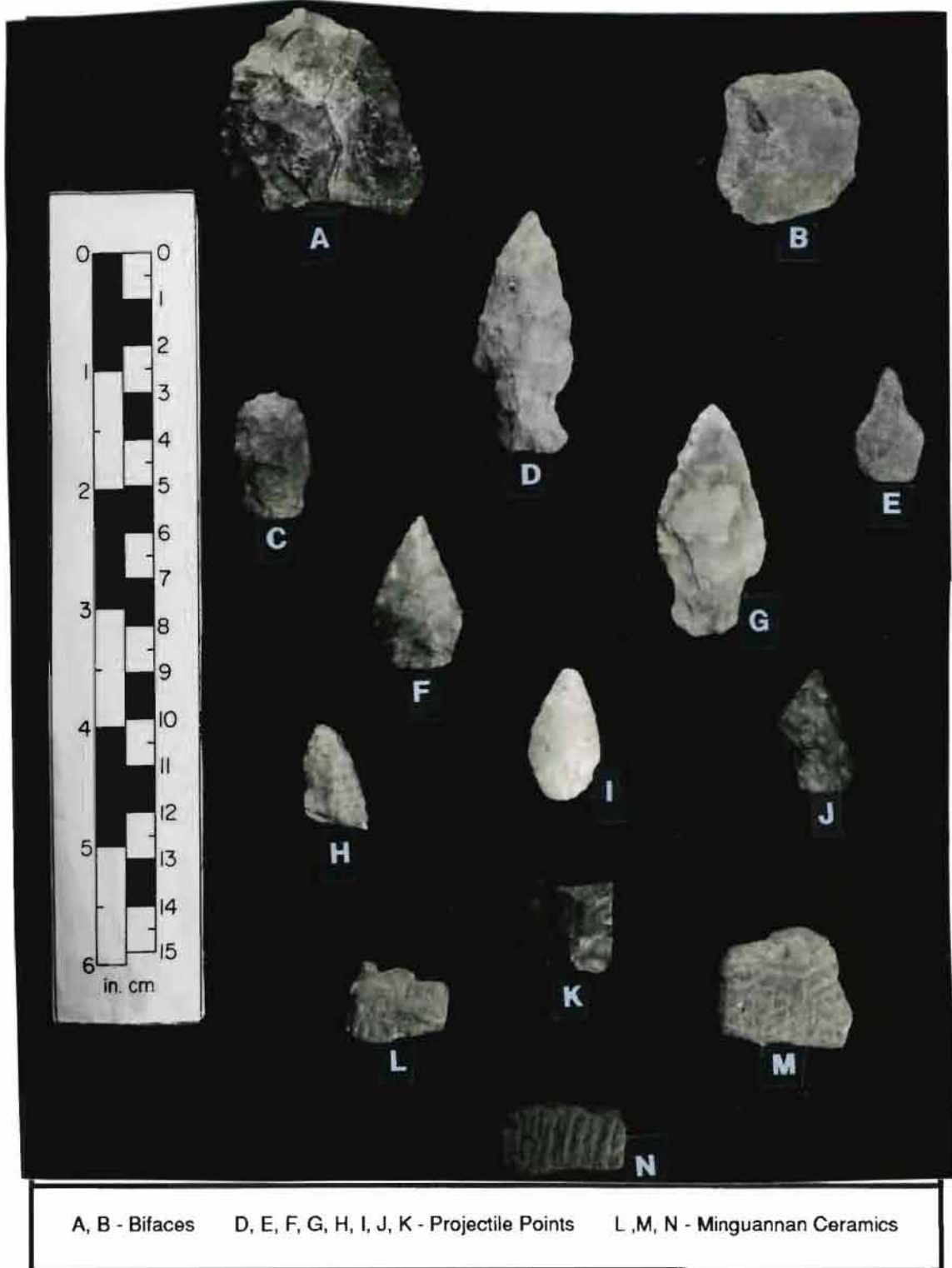
PLATE 7  
Site Sub-Areas -  
Aerial View Looking East During Phase III Excavations



*[Click here to see photograph](#)*



PLATE 8  
Sample Artifacts from Phase II Testing



A, B - Bifaces      D, E, F, G, H, I, J, K - Projectile Points      L, M, N - Minguannan Ceramics

PLATE 8  
Sample Artifacts from Phase II Testing

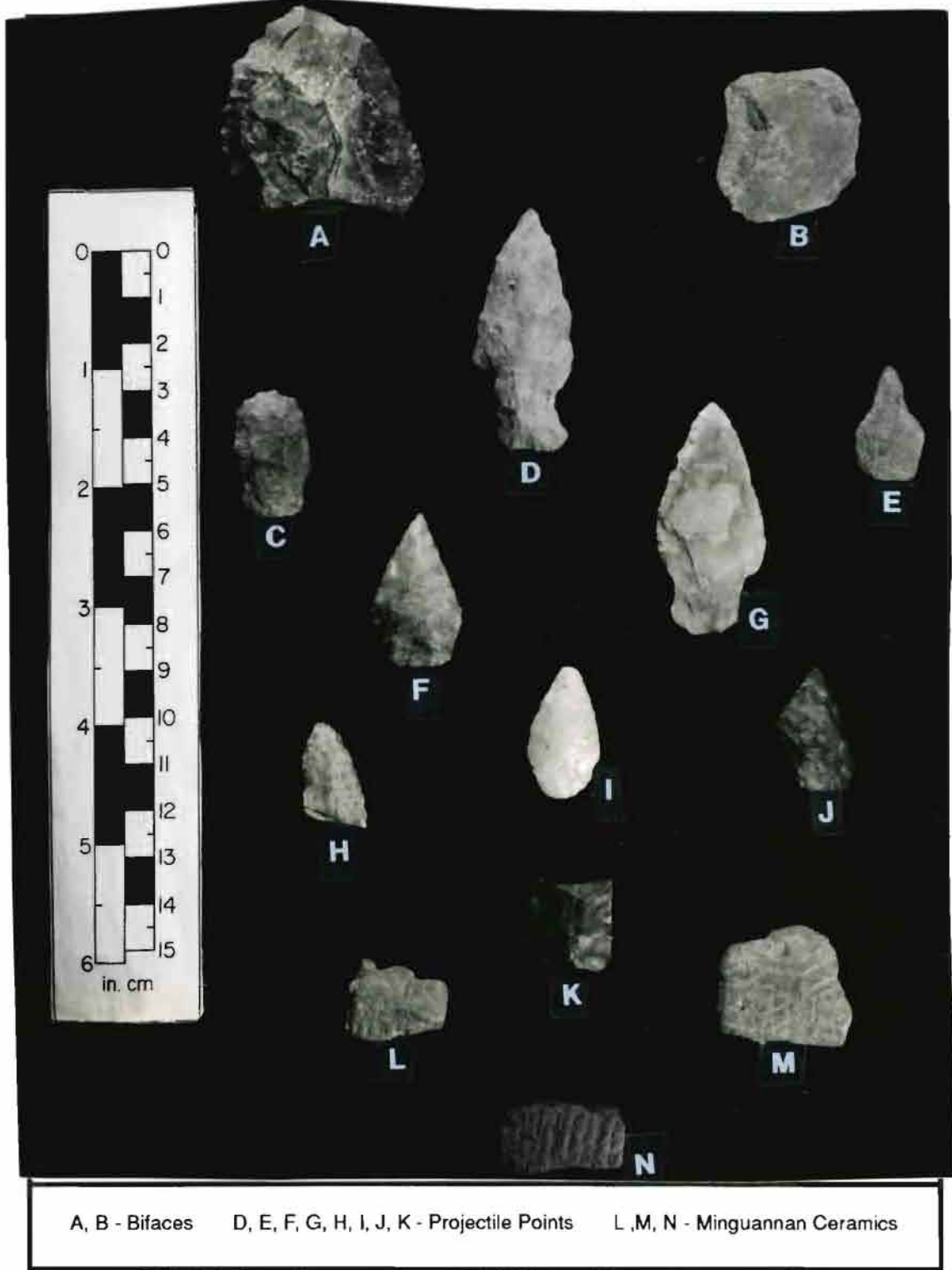
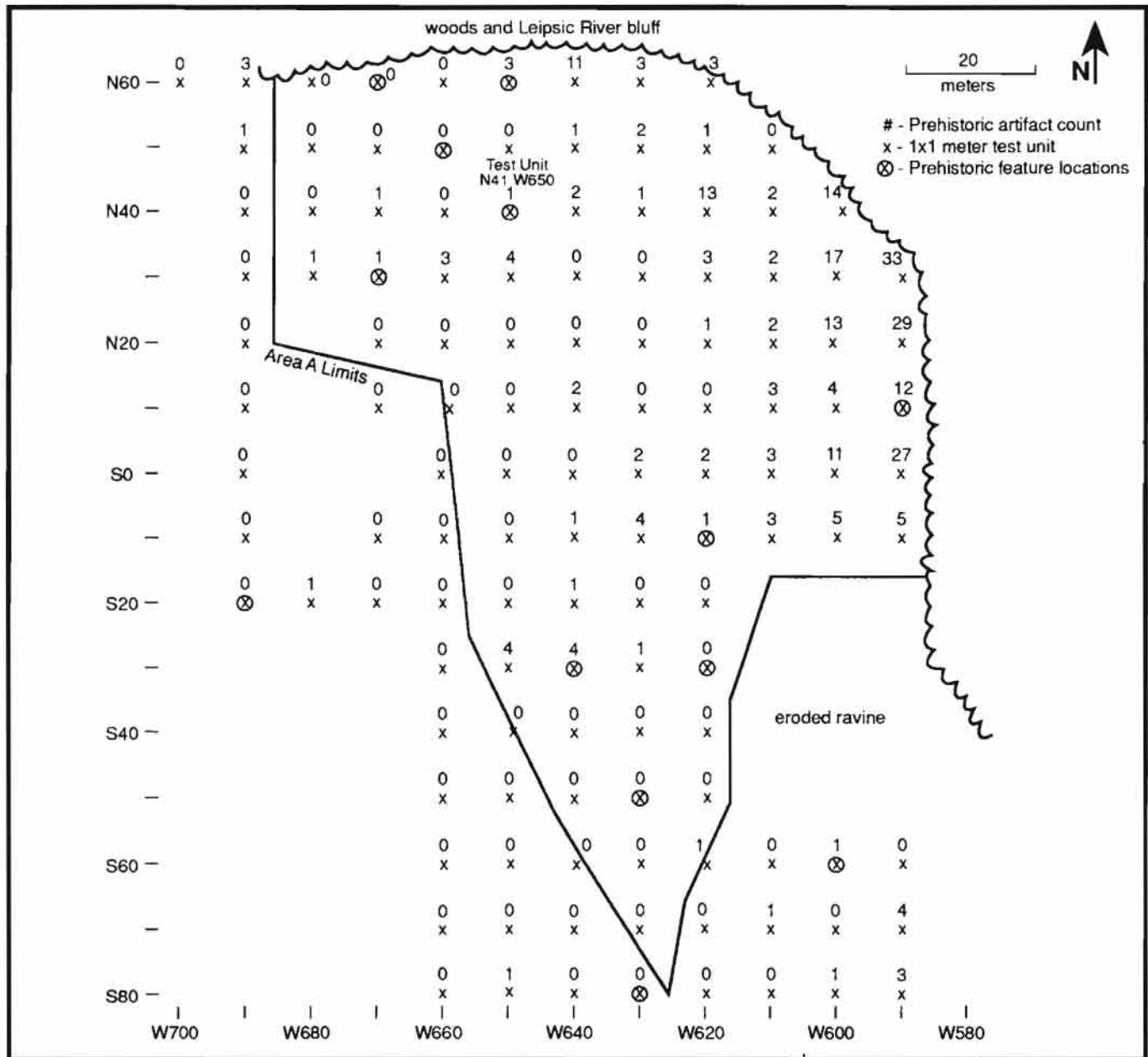


FIGURE 14

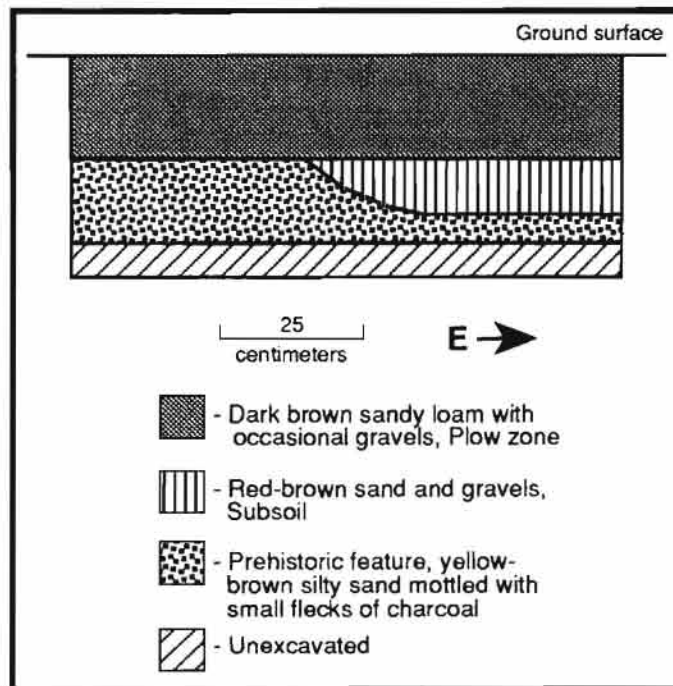
# Area A Artifact and Feature Distribution from Phase II Testing



**Area A.** Area A, which covers an area of 2.3 acres, is located in the extreme northwest corner of the parcel (Figure 13, Plate 7) near the eastern edge of the proposed State Route 1 right-of-way and is bounded on the north by the bluff edge of the Leipsic River floodplain. This bluff edge is heavily wooded and approximately 15 feet above the floodplain. To the east, Area A is bounded by a deep, heavily eroded ephemeral drainage which separates it from Area B, to the east. The southern and western boundaries were determined by artifact distributions (Figure 14). One hundred and twenty-five test units were excavated at 10-meter intervals during Phase II testing. Thirteen prehistoric features were identified and the locations of these features are also shown in Figure 14.



FIGURE 15  
Profile of Test Unit N41 W650,  
Area A



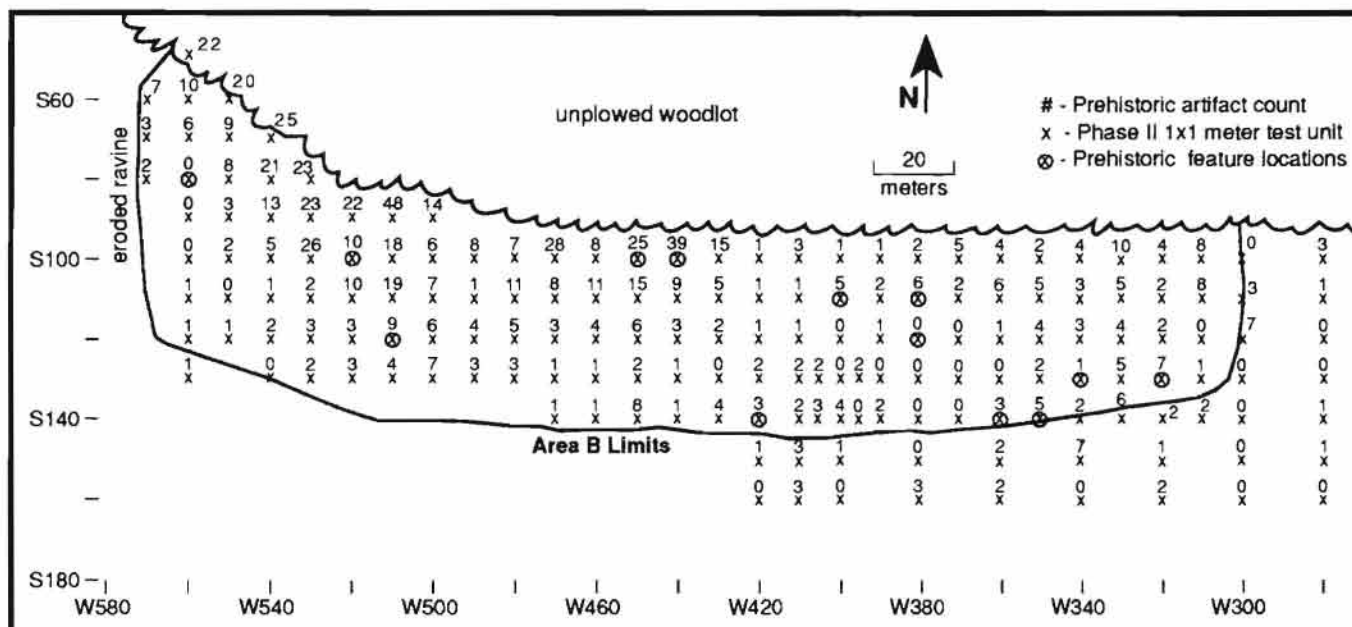
Artifact densities in Area A ranged from one to 33 prehistoric artifacts per 1- x 1-meter test unit. Artifact densities were consistently higher (11-33 artifacts per test unit) along the woodline bordering the Leipsic River bluff and floodplain. However, this area was also the most heavily eroded and prehistoric features were more commonly found in the better preserved southern and western sections of Area A. The thirteen features in Area A were defined by deposits of medium yellow-brown silty sand mottled with varying amounts of small charcoal flecks. A profile of a typical test unit with a feature (Test Unit N41 W650) is shown in Figure 15. Two hundred and fifty prehistoric artifacts were found during Phase II testing in Area A, and all were found in the plow zone. Five diagnostic prehistoric artifacts were found, including two jasper stemmed points and three small sherds of Hell Island and Mockley ceramics, and all date to the Woodland I Period.

**Area B.** Area B was defined as a 3.3-acre strip of relatively high artifact density along the northern edge of the Pollack field (Figure 13, Plate 7). Area B is bounded on the west by an eroded ravine. The southern and eastern limits of Area B were defined by artifact distributions (Figure 16) and the northern edge of Area B was defined by the treeline of the unplowed woodlot portion of the Pollack Site. Phase I testing had determined that Area B is a continuation of a larger occupation extending north into this woodlot.

Prehistoric artifacts, primarily fire-cracked rock and local cobble chert, jasper, and quartz flakes, were recovered from 123 of the 141 test units (87%). Artifact densities ranged from one to 39 artifacts per 1- x 1-meter test unit. Artifact densities were generally highest along the northern and western edges of Area B. These two edges are adjacent to the unplowed woodlot portion of the site. Prehistoric features were found throughout Area B (Figure 16). Despite slightly lower artifact densities, the eastern half of Area B was less eroded, and thus prehistoric features were slightly more common. As with Area A, the prehistoric features in Area B were defined by undisturbed deposits of yellow-brown silty sand below the plow zone. These feature soils contained varying amounts of charcoal and are probably the remains of prehistoric pit houses or storage pits. The stratigraphy of Area B was identical to that of Area A.

Fourteen diagnostic prehistoric artifacts were found in Area B during Phase II testing. Although artifacts from the Archaic and Woodland II periods were also found, the majority of the diagnostic artifacts in Area B dated to the Woodland I Period. The Woodland I artifacts consisted of three jasper stemmed points, one argillite point tip, and two small sherds of Hell Island and Mockley ceramics. An

FIGURE 16  
Area B Artifact and Feature Distribution from Phase II Testing



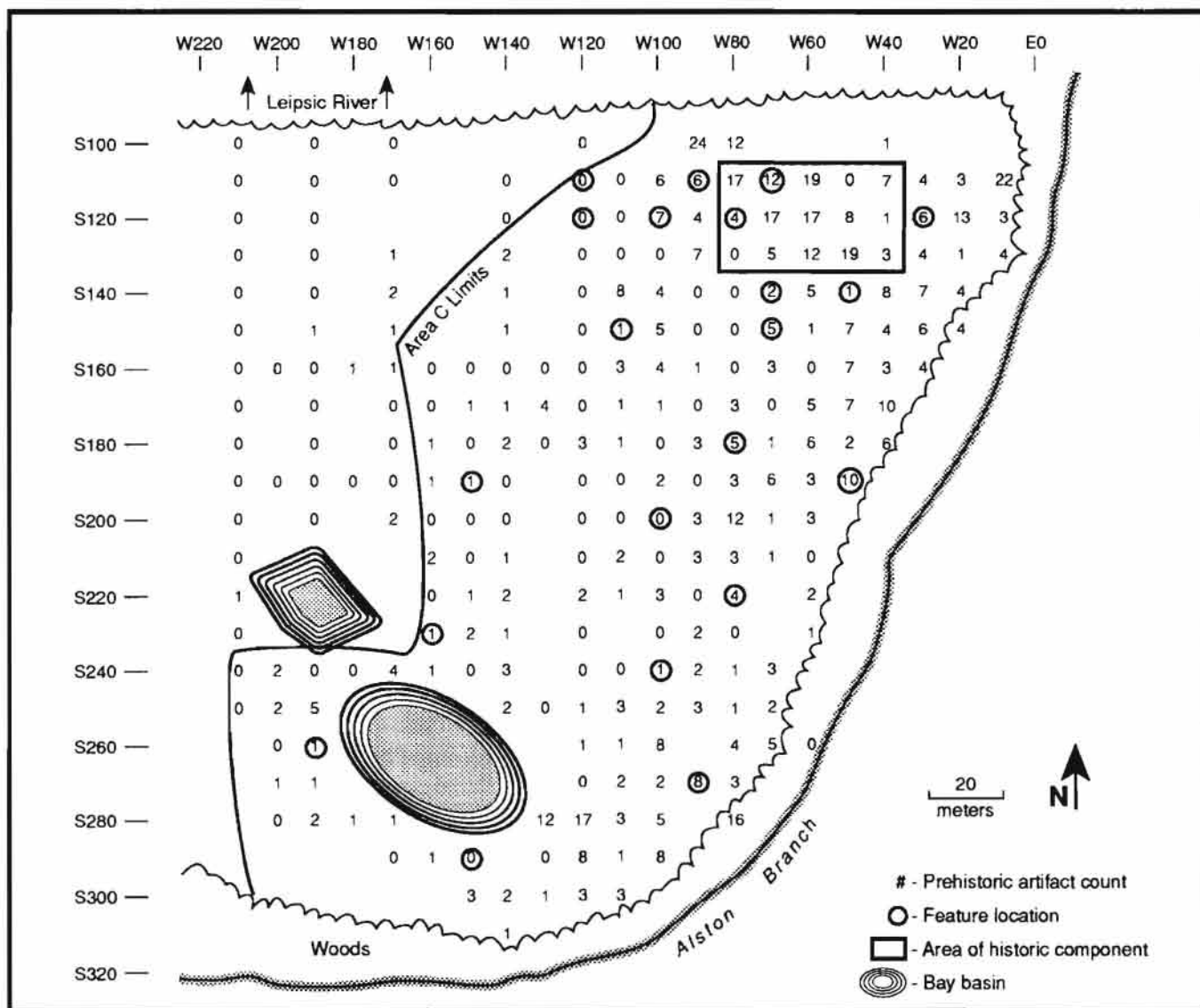
Archaic occupation of Area B was indicated by a quartz bifurcate and a jasper Kirk projectile point. No diagnostic Woodland II Period projectile points were found, but four small fragments of probable Minguannan and Townsend ceramics were found. No evidence of any significant historical remains were identified.

**Area C.** Area C, which covers approximately 7.2 acres, is the largest area of prehistoric and historical activity found at the Pollack Site and is located in the northeast corner of the Pollack field near the confluence of the Alston Branch and Leipsic River (Figure 13, Plate 7). Area C was bounded on the north by the unplowed woodlot and bounded on the south and east by Alston Branch. The western limit of the site was defined by artifact distributions (Figure 17). A total of 256 test units were excavated to define the limits of Area C and one unit was dug near the southwest corner of every 10- x 10-meter block.

Two significant archaeological components were identified in Area C. The largest archaeological component was a prehistoric occupation that spanned the Archaic to Woodland II periods (6500 B.C. to A.D. 1650). Prehistoric artifact densities ranged from one to 24 artifacts per test unit. As with the other areas of the Pollack Site, prehistoric artifact densities were highest along the unplowed woodlot to the north and Alston Branch to the east and south. Prehistoric features were also found under the plow zone throughout Area C. These prehistoric features were defined by the same yellow-brown silty sands and charcoal found in Areas A and B.



FIGURE 17  
Area C Artifact and Feature Distributions from Phase II Testing

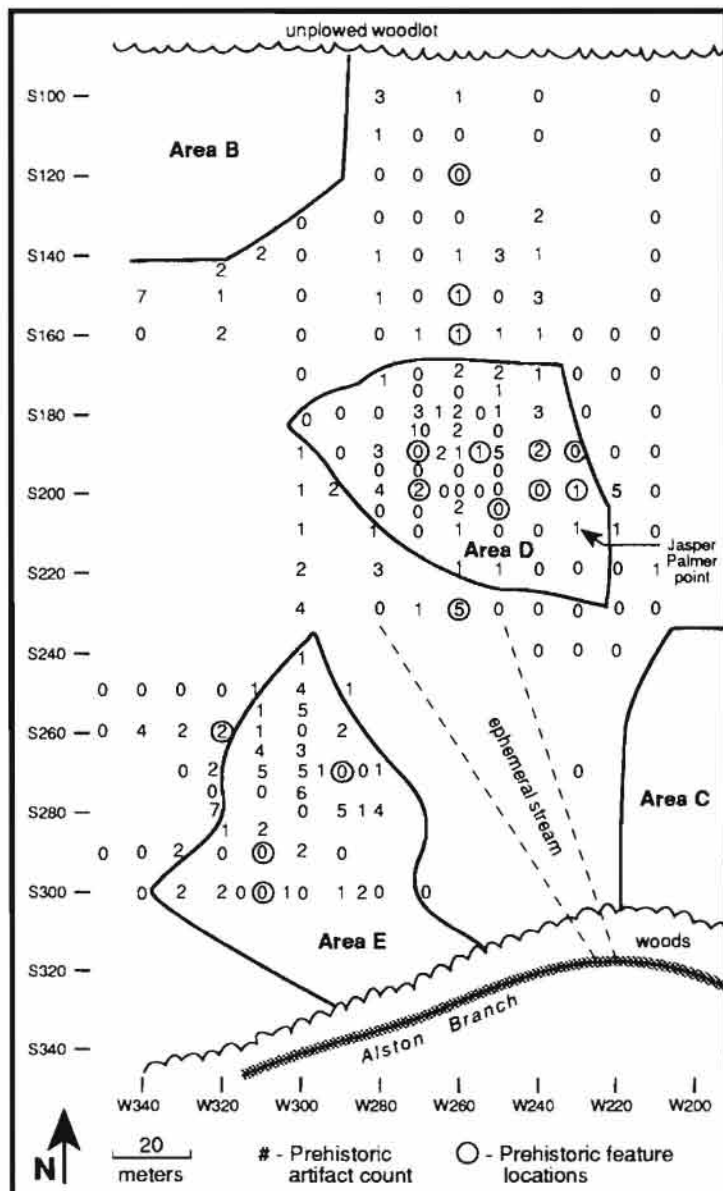


Nineteen diagnostic prehistoric artifacts were found in Area C, and 11 of these were small sherds of Hell Island, Wolfe Neck, and Mockley ceramics. Two Minguannan sherds from the Woodland II Period were also found in Area C. The remaining six diagnostic artifacts were Woodland I and II jasper, ironstone, argillite, and quartz stemmed and triangle projectile points. Two Lehigh/Koens-Crispin broadspears, one made of argillite and the other of rhyolite, were also found. The range of raw materials of these Woodland I points is typical of Woodland I sites in central Delaware where local cobble jaspers, cherts, quartzes, and chalcedonies were the most common lithic resources utilized. This range of raw materials is also reflected in the large numbers of flakes, cores, and utilized flakes with cortex found throughout Area C. An additional significant archaeological occupation of Area C was a late seventeenth to early eighteenth century historical occupation whose location is noted in Figure 17. Excavation of this component will not be discussed in this report; however, it will be described in a forthcoming report.

An additional interesting aspect of Area C is the presence there of two bay/basin features. One of these features is located in the southern portion of Area C and the other is along Area C's western border (Figure 17). Bay/basin features are natural, circular, poorly-drained depressions that were formed prior to the prehistoric human occupation of Delaware (Rasmussen 1958). Numerous studies (e.g., Kellogg and Custer 1994) have shown that these landscape features held water intermittently throughout the past 15,000 years. Bay/basins are often the focus of prehistoric settlement (Custer 1989: 134-135, 210-212) and their presence in and adjacent to Area C enhances its attractiveness for prehistoric people.

FIGURE 18

## Areas D and E Artifact and Feature Distribution from Phase II Testing



Areas D, E, F, and G. Four additional small areas of prehistoric activity were identified south of Areas A and B and west of Area C (Figure 13, Plate 7). All four of these areas, Areas D, E, F, and G, contained low and very low artifact densities and limited evidence of intact features. Evidence of moderate to severe erosion and deflation was encountered in all four areas. Overall site integrity in Areas D, E, F, and G was determined to be less than that of Areas A, B, C, and H.

Area D was defined as a 0.7-acre concentration of prehistoric artifacts and features located in the middle of the field on a slight, sandy knoll approximately midway between Areas B and C (Figure 13, Plate 7). This knoll was located at the head of a small, heavily eroded ephemeral drainage into Alston Branch. Limits of Area D were defined by artifact concentrations (Figure 18). Artifact densities were generally very low, less than two artifacts per test unit. Prehistoric features were encountered in eight of the 54 test units (15%), and were concentrated along the top and adjacent slopes of the slight sandy knoll dominating Area D. Feature preservation appeared to be slightly greater along the immediate slopes of the knoll where soils from the moderately eroded crest protected prehistoric features from subsequent plowing and erosion. The features in Area D were defined by the same yellow-brown silty sand and charcoal seen elsewhere at the Pollack Site.

Area E was identified as a small, 0.9-acre area with low prehistoric artifact densities and occasional prehistoric features southwest of Area D and west of Area C (Figure 13, Plate 7).



Moderate erosion was encountered throughout Area E and the limits of this area were determined by site integrity, artifact densities, and the presence of cultural features (Figure 18). Prehistoric artifacts were recovered from the plow zone in 24 of the 36 total test units (67%). Artifact densities were consistently low and ranged from one to six artifacts per test unit. The highest relative densities of artifacts (four to six artifacts per test unit) were found along a sandy ridge parallel to the W300 line. This slight ridge was oriented adjacent to the ephemeral stream to the east and perpendicular to Alston Branch to the south. Evidence of three prehistoric features was found along the eastern and western slopes of this ridge (Figure 18). Features were found in a similarly protected setting in adjacent Areas C and D.

Area F was defined as a small, 0.3-acre area of prehistoric artifacts and intact prehistoric features west of Area E (Figure 13, Plate 7). This area consisted of a gradually sloping terrace of Alston Branch. Although all of Area F was moderately eroded, prehistoric artifacts and features were located by Phase II testing (Figure 19). Prehistoric artifact densities were consistently low (less than three artifacts per test unit). One diagnostic prehistoric artifact, a rhyolite Woodland I stemmed point, was found in Area F. The presence of two prehistoric features in Area F indicated the potential for further artifacts and intact features. Both of the prehistoric features in Area F were comprised of dark yellow-brown silty sands and charcoal preserved by slope wash from the surrounding higher ground. Prehistoric features were found in similar settings in Areas C, D, and E.

Area G consisted of a small, 1.6-acre area of low artifact and feature density 60 meters west of Area F (Figure 13, Plate 7). Area G was dominated by a slight sandy ridge oriented to Alston Branch 20 meters to the south and was bounded on the west and east by heavily eroded ephemeral drainages and associated areas with no prehistoric artifacts (Figure 20). The southern boundary of Area G was the woodline of Alston Branch. Artifact densities in Area G ranged from one to seven prehistoric artifacts per test unit. Artifact densities were highest (two or more artifacts per test) along the western edge of Area G. Evidence of prehistoric features was found below the plow zone in 11 of the 113 test units dug in this area.

Seven diagnostic prehistoric artifacts were found in Areas D, E, F, and G. All of these artifacts were projectile points dating to the Late Paleo-Indian, Archaic, and Woodland I periods. The oldest point was a jasper Palmer point recovered from Area D. This projectile point dates to the Paleo-Indian

FIGURE 19  
Area F Artifact and Feature  
Distribution from Phase II Testing

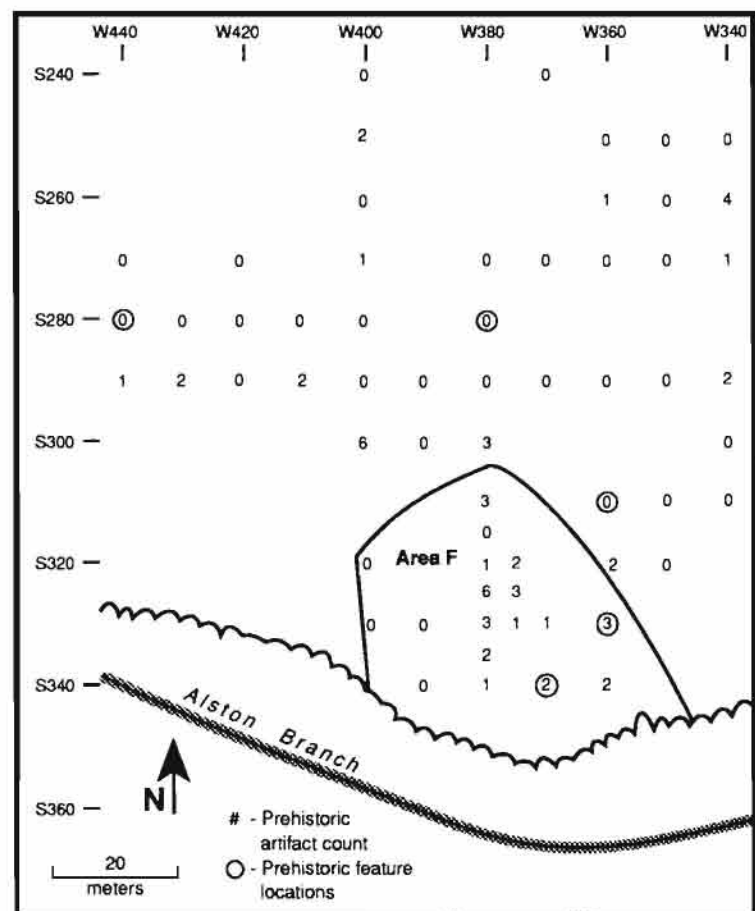
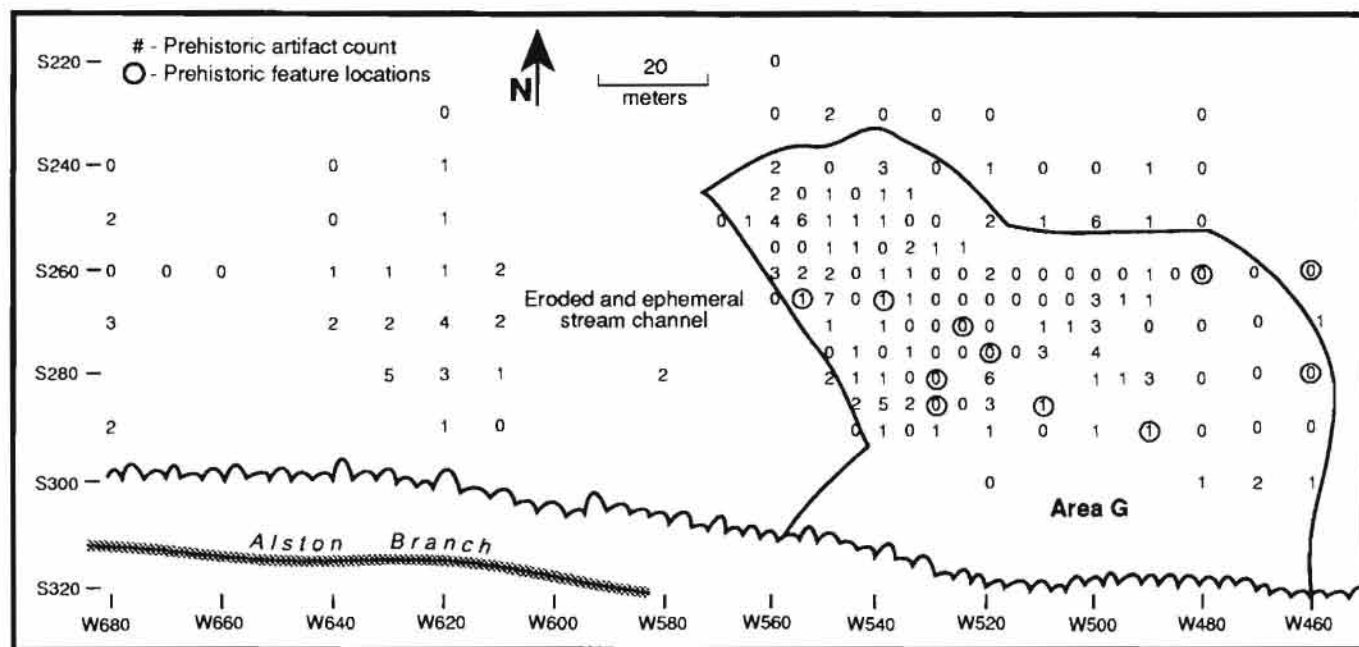




FIGURE 20

## Area G Artifact and Feature Distribution from Phase II Testing



Period and was the oldest diagnostic artifact found at the Pollack Site during the Phase II testing. The six remaining diagnostic artifacts in Areas D, E, F, and G were stemmed and corner-notched varieties of Woodland I, and possibly Archaic Period projectile points. No prehistoric ceramics or other temporally diagnostic prehistoric artifacts were found in Areas D, E, F, and G. The most common artifacts recovered were flakes, fire-cracked rock, and utilized flakes from local jaspers, cherts, and quartzes. A small number of cobble cores and a hammerstone indicating primary lithic reduction were also found.

An eighth area, Area H (Figure 13, Plate 7), was also identified during Phase II testing. This area contained mainly historical artifacts and will not be discussed in this report.

In sum, Phase II testing at the Pollack Site identified eight discrete areas of historical and prehistoric occupation. The limits of each of these eight areas were determined on the basis of artifact density, site integrity, and the presence of intact cultural features. Additional excavations were recommended for all areas. Based on the large numbers of artifacts and features recovered, the Pollack Site is most likely a series of prehistoric base camps. The large size of some of the prehistoric features found at the Pollack Site suggests that they are house pits or storage pits. These features were found in discrete concentrations indicating that "household clusters," or residential locales, were probably present at the site during Woodland I and Woodland II times. Artifacts dating to the Archaic Period were also recovered, but no evidence of features from this time period was identified. Phase II excavations clearly confirmed that the Pollack Site is eligible for listing on the National Register of Historic Places under Criterion "D".

### Phase III Research Design and Research Methods

**Research Design.** At the time of the beginning of Phase III excavations at the Pollack Site, comparable large-scale excavations of prehistoric base camp sites had not been previously undertaken in the central Middle Atlantic region. Consequently, data description was an important component of the